

MAP NO.: ASSESSMENT REPORT X
115 G 5, 12 PROSPECTUS
CONFIDENTIAL X
OPEN FILE

DOCUMENT NO: 092578
MINING DISTRICT: Whitehorse
TYPE OF WORK: Geochemical

REPORT FILED UNDER: Harjay Exploration Ltd.

DATE PERFORMED: 10 June, 1988

DATE FILED: 4 November, 1988

LOCATION: LAT.: 61 30'N

AREA: Donjek River

LONG.: 139 48'W

VALUE \$: 4000.00

CLAIM NAME & NO.: SF 1-32 (YA 97576-607)

WORK DONE BY: G.S. Davidson

WORK DONE FOR: Harjay Exploration Ltd.

DATE TO GOOD STANDING:

REMARKS: # 87 DONJEK In 1988 magnetometer and VLF-EM surveys were done on the property. A northeast-trending VLF-EM anomaly which coincides with the west edge of a strong magnetic high is interpreted as a lithologic contact between sedimentary and mafic/ultramafic rocks.

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S.S. Davidson

WORK DONE FOR:

Harjay Exploration Ltd

DATE TO GOOD STANDING

REMARKS: # 87 ~~Donjek~~ Donjek

A strong magnetic anomaly underlies ~~Don~~ the Donjek River flats on trend with ~~area~~ nickel and copper-bearing ultramafic rocks ~~in~~ exposed in Arch Creek and Quill Creek.

In 1988 magnetometer and VLF-EM surveys were done on the property. ~~Strong magnetic highs~~ A strong magnetic high ^{which} coincides with the west edge of a strong magnetic high ~~and appears~~ is interpreted as a batholytic contact between sedimentary and mafic/ultramafic rocks.



Indian and Northern
Affairs Canada

Affaires indiennes
et du Nord Canada

092578

TRANSMITTAL FORM

M.R. file no.
R.M.M.R. file no.
Date forwarded 7 Nov 1988

From ► Mining Recorder at: Whitehorse
To ► Regional Manager, Mineral Rights at Whitehorse, Y.T.

For action are:

☐ NEW APPLICATION FOR PLACER LEASE TO PROSPECT

Name

☐ RENEWAL APPLICATION PLACER LEASE TO PROSPECT

Name

Lease no.

☐ AFFIDAVIT OF EXPENDITURE ON PLACER LEASE

Name

Lease no.

☐ SECURITY DEPOSIT

☐ FINANCIAL ABILITY

☐ ASSIGNMENT OF PLACER LEASE NO.

From

To

☐ GROUPING APPLICATION
UNDER SEC. 52(2) PLACER MINING ACT.

Owner

☐ DIAMOND DRILL LOGS

Claims

Claim sheet no.

☒ QUARTZ ASSESSMENT REPORT

Claims

Claim sheet no.

Type of report

Submitted by

Cls. work performed on

\$ req. for ren. application

Signature

092578

REPLY ACTION

Date returned 22 Nov. 88 16 Dec. 88

Approved for amount required

Signature

092578

ASSESSMENT REPORT

on the

092578

SF 1-32 MINERAL CLAIMS
(YA97576-YA97607)
Whitehorse Mining District
NTS 115 G-5/12
Lat. 61 30'N Long. 139 48'W

For: HARJAY EXPLORATION LTD.
17-4078 Fourth Ave.
Whitehorse, Yukon

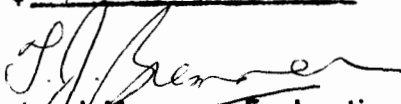
By

G.S. DAVIDSON, P. Geol.

October, 1988



This report has been examined by
the Geological Evaluation Unit
under Section 53 (4) Yukon Quartz
Mining Act and is allowed as
representation work in the amount
of \$ 4000.00.

for 
Regional Manager, Exploration and
Geological Services for Commission
of Yukon Territory.

670800

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INTRODUCTION

The SF claims cover aeromagnetic anomalies located on the west side of the Donjek River Valley south of Wolverine Creek. The property is underlain by Skolai Group volcanic and sedimentary rocks, Nikolai Greenstone and Triassic intrusive bodies. The nearby Wellgreen deposit, a large tonnage lowgrade nickel, copper and platinum group element orebody, is hosted by similar geology.

Harjay Exploration Co. Ltd. performed magnetometer and VLF-EM surveys on a flagline grid situated on SF 1-8, 18 and 20 claims. The writer and L. Lebedoff conducted the surveys on June 10, 1988. This report describes the results of these surveys.

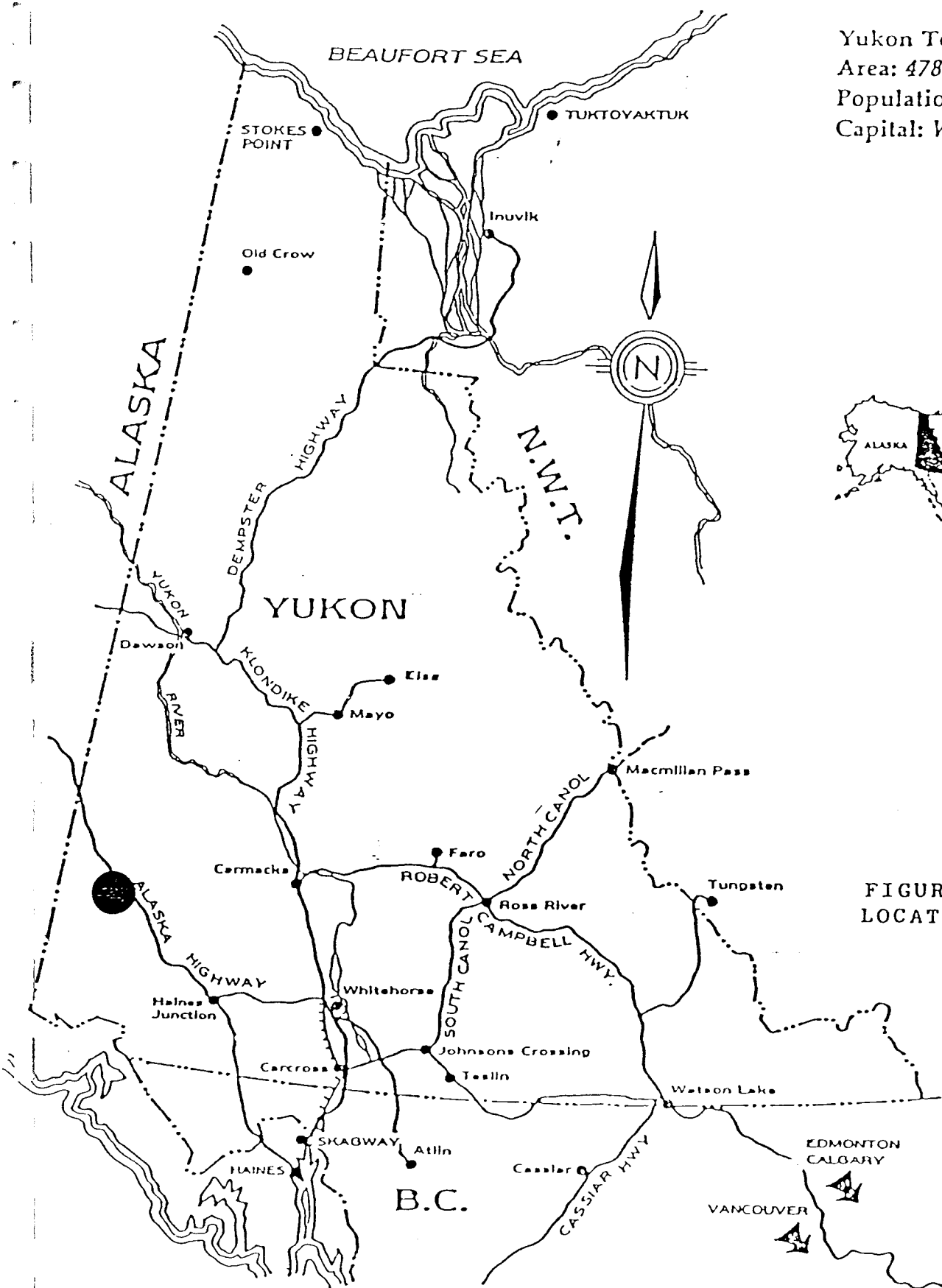
LOCATION AND ACCESS

The SF claims are located 15 km. south of the Alaska Highway's Donjek River bridge and 65 km northwest of Destruction Bay in the western Yukon Territory. The property is accessible by helicopter from Haines Junction. Figure 1 shows the property location.

PHYSIOGRAPHY, CLIMATE VEGETATION

The claims lie on the west side of the wide Donjek River Valley. They cover low lying swampy ground and fairly open spruce forest. Elevations average 750 m a.s.l.. Wolverine Creek and the Donjek River consist of braided stream channels in gravel flats. The Donjek gravel flats are up to 3 km wide.

The Donjek River area has a northern interior climate with long cold winters and low annual precipitation. At the elevations encountered on the claims exploration is possible on a year round basis.



Yukon Territory
 Area: 478,034 sq. km.
 Population: 25,000
 Capital: Whitehorse



FIGURE 1
 LOCATION MAP

PROPERTY

The property consists of 32 contiguous mineral claims registered with the district mining recorder in Whitehorse. The claims are held by Harjay Exploration Co. Ltd. (50%) and Kluane Joint Venture (50%). A renewal period to September 19, 1989 has been requested for the SF 1-32 claims, record number YA97576-YA97607. The claim plan is shown in Figure 2.

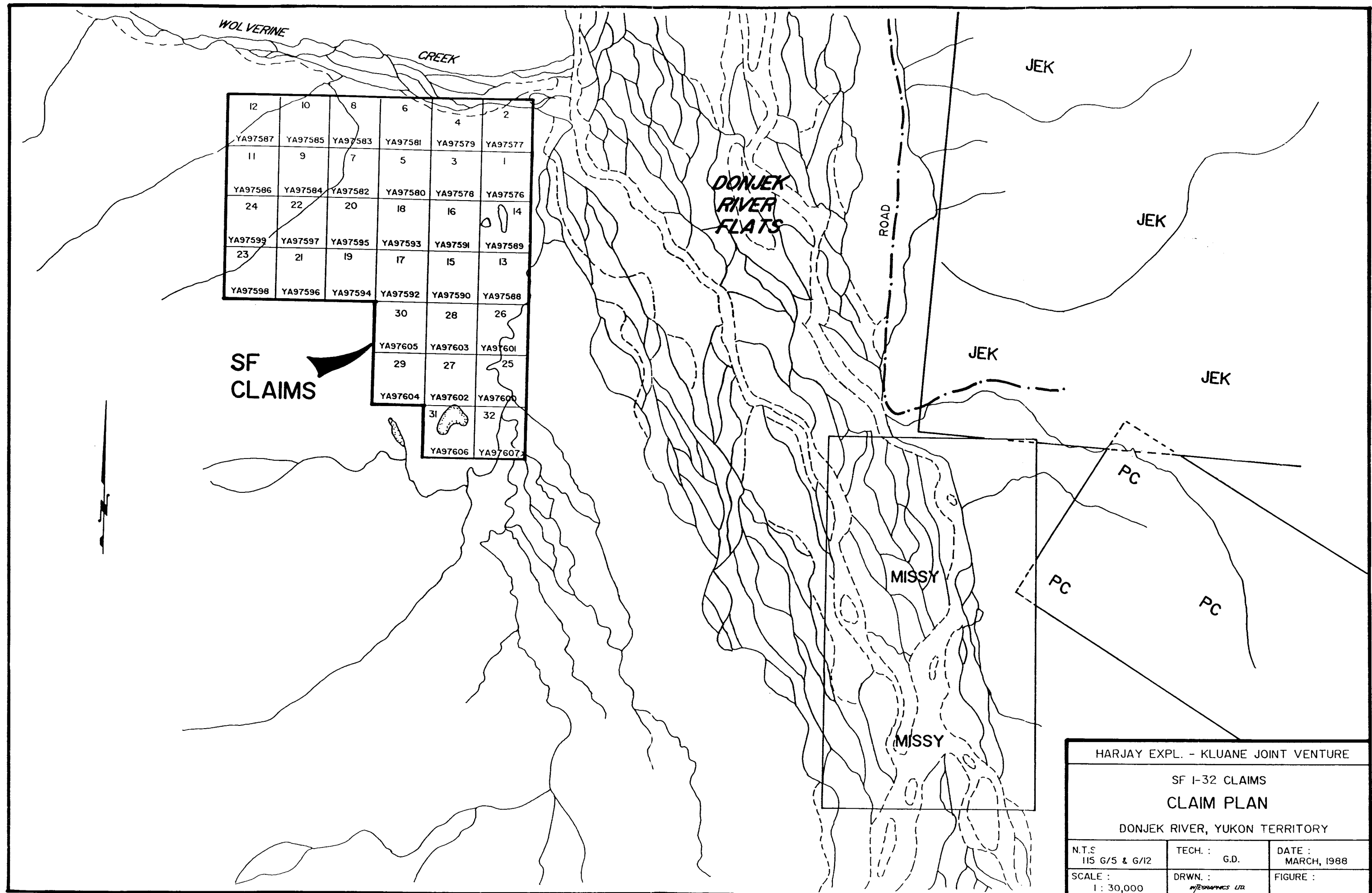
HISTORY

The region was first explored in the early 1900's by prospectors looking for the sources of placer copper occurrences on the upper White River. The Canyon City native copper deposit was discovered in 1905. Limited development work uncovered several large tabular masses of native copper. In the early days a network of trails were established linking the gold fields in central Alaska to Whitehorse and coastal Alaska. Many miners and prospectors travelled through the Kluane district en route to the various gold finds.

In the 1950's, the Kluane Ranges were intensely explored for copper-nickel mineralization. Two deposits, Wellgreen and Canalask, were discovered and developed. Hudson Bay Mining and Smelting Company mined the higher grade Wellgreen deposit from 1972-1973. It contained a reported tonnage of 728,000 tons grading 2.05% nickel, 1.42% copper, 0.073% cobalt, 0.038oz/ton platinum, 0.027oz/ton palladium and 0.005oz/ton gold. At the Canalask property an orebody with reserves of 550,000 tons assaying 1.68% nickel and 0.04% copper was outlined by surface diamond drilling and underground exploration, however no mining took place.

Placer miners have been active on most of the creeks in the area. Wolverine Creek was tested in the early 1980's and bedrock is reported to lie 7 m below surface in the gravel fan approximately 2 km upstream of its confluence with the Donjek River.

The SF 1-32 claims cover strong aerial magnetic anomalies outlined in the 1950's by Prospector Airways Ltd.. Originally staked as the Jay 1-32 and 37-172 claims in 1953 the claim block was described as follows in a Canalask Nickel Mines report:



HARJAY EXPL. - KLUANE JOINT VENTURE		
SF 1-32 CLAIMS		
CLAIM PLAN		
DONJEK RIVER, YUKON TERRITORY		
N.T.S. 1:15 G/5 & G/12	TECH. : G.D.	DATE : MARCH, 1988
SCALE : 1 : 30,000	DRWN. : M/TECHNICS LTD.	FIGURE :

This group of 168 staked claims lying at the junction of the Donjek River and Wolverine Creek covers a very strong anomaly which is overlain by river gravels and benches. There is very little rock outcrop in the area. The magnetic anomalies are strong and a limited amount of self potential geophysical surveying has been done this fall, and is continuing as long as weather permits. This self potential work has indicated some interesting areas within the magnetic zone which must be further investigated next year. It is worthy of note that the aerial survey indicates that the geological conditions found in the Hudsons Bay Mining and Smelting property on Quill Creek, approximately eight miles to the east of this group, continue through the group; it is known that peridotite dykes containing nickel and copper have been picked up along a line joining this group with the Hudsons Bay prospect. It therefore appears that a cross shearing or faulting may occur along this line.

Detailed reports of work completed on the Jay claims have not been located. G. Harris and the writer examined old drill core found on the north side of Wolverine Creek. The core consisted of black siltstone containing disseminated chalcopyrite, and fine to medium grained diorite. These rock types are identical to the geology found on the east side of the Donjek River around Arch Creek.

The rise in the price of platinum group elements in 1986-1987 prompted a surge of exploration throughout the Kluane Ranges. Resource companies active in the district include All-North Resources Ltd., Chevron Minerals Ltd., Pak-Man Resources Inc. and Silverquest Resources Ltd..

REGIONAL GEOLOGY

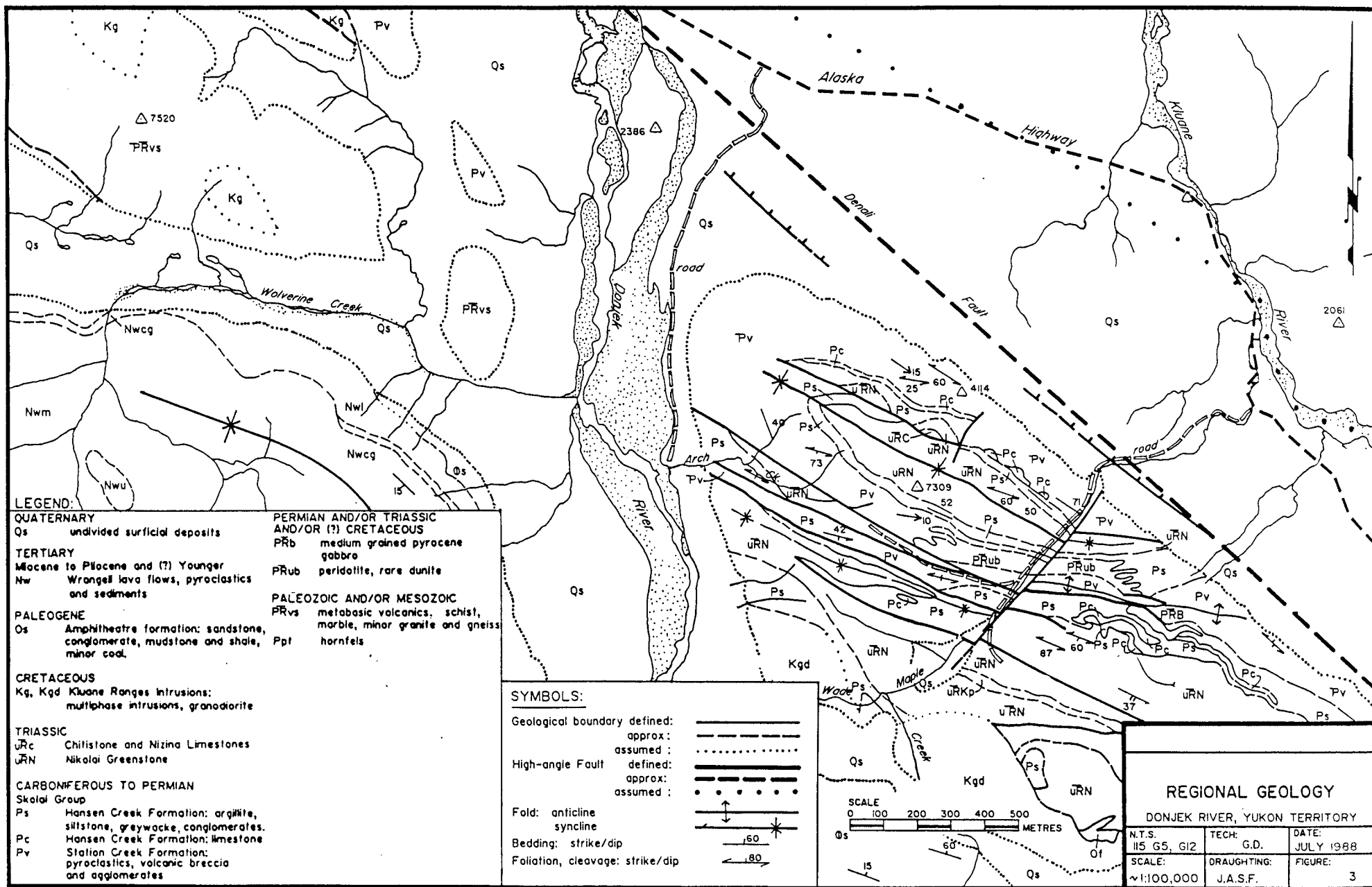
The Donjek River area southwest of the Shakwak Valley is underlain by Carboniferous to Permian, and Triassic sedimentary and volcanic units intruded by granitic and mafic bodies of Cretaceous and Triassic age. The Shakwak Valley is part of the Denali Fault system, the structural division between the Coast Plutonic Belt and Wrangell Terrane in the Kluane Ranges. The geology of the district was released in Open File #829 by the G.S.C.. Figure 3 shows the regional geology.

In the Kluane Ranges the most widespread group is the Carboniferous to Permian Skolai Group. It consists of two formations; the Station Creek Formation composed of green cherty tuffs and volcanic breccia, and the Hansen Creek Formation composed of argillite, siltstone, greywacke, conglomerate and limestone. Skolai Group strata are foliated parallel to the Denali Fault and contain variable amounts of chlorite, pyrite and base metal sulphides.

Triassic Nickolai greenstone also occurs extensively in the Kluane Ranges. It consists of fine to medium grained mafic flows which weather a dark green or purple color.

Sills and elongated bodies of peridotite and gabbro of Triassic age were emplaced in the tuffaceous rocks of the Skolai Group. The gabbros, serpentized peridotites and enclosing rocks host nickel and copper mineralization which contains low grades of PGE metals.

The Cretaceous Kluane Range Intrusions intrude the older layered rocks. They consist of multiphase intrusions of granite and granodiorite.



EXPLORATION PROGRAM

In June, 1988 the writer and L. Lebedoff performed magnetometer and VLF-EM surveys on a flagline grid. A cut baseline orientated north-south was established with station 4+00S at Post 1, SF claims 5 and 6. Crosslines were run at 200 m centers to the east and west with flagged stations at 25 m intervals. Figure 4 shows the grid plan.

The geophysical surveys were conducted using a EDA Omni Plus instrument. The magnetometer survey followed the standard procedure of establishing a magnetic baseline and then proceeding along crosslines, starting and returning to the baseline in a loop pattern. The crossline readings are then corrected relative to the diurnal magnetic variation. The VLF-EM survey utilized the VLF signal transmitted from Jim Creek, Washington State at a frequency of 24.8 KHz.

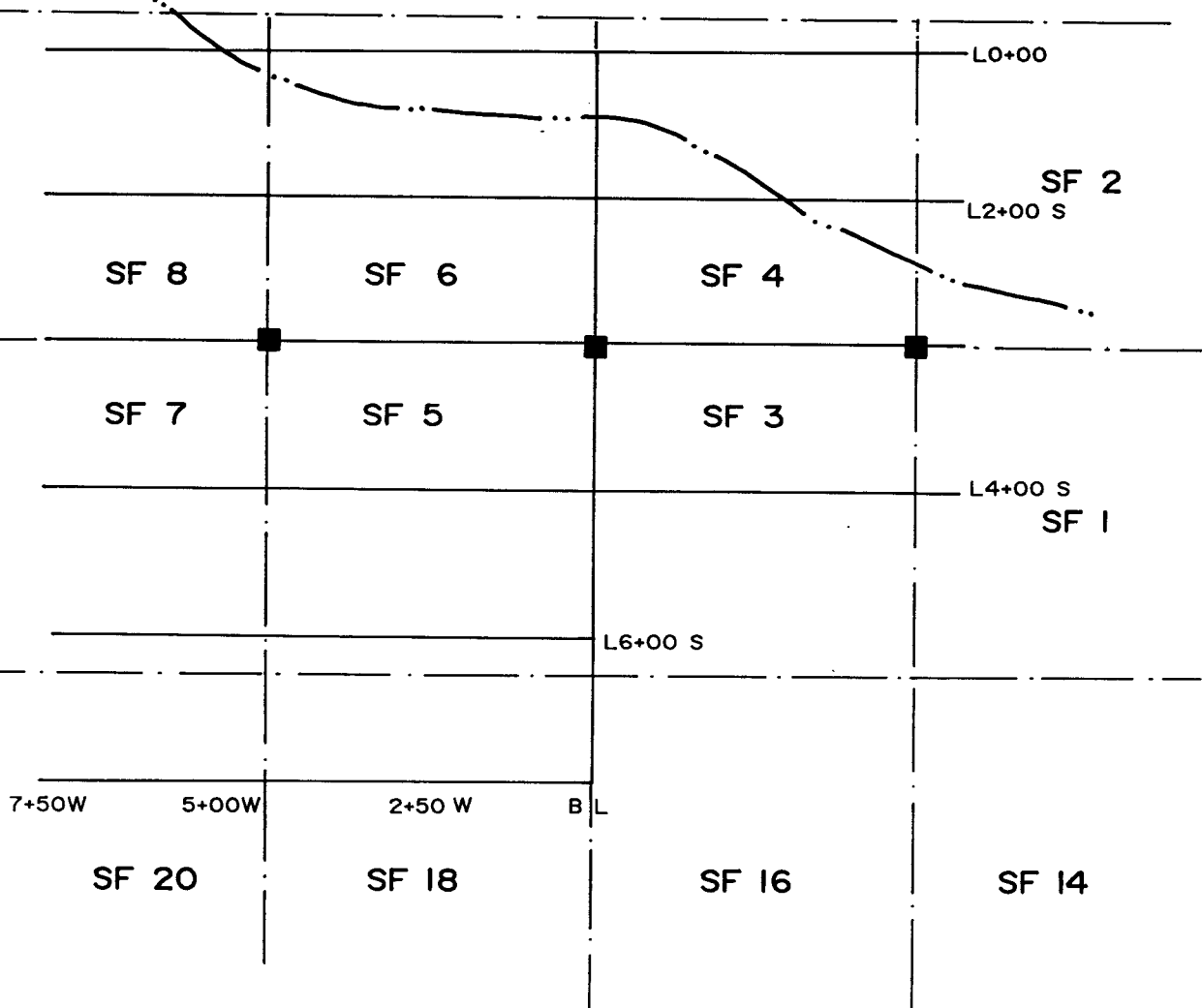
MAGNETOMETER SURVEY

A contour magnetometer plan of the survey is presented in Figure 5. The total magnetic field in the area ranges from 57,743 to 61,179 gammas, a variance of 3,436 gammas. Strong magnetic highs are located in the center and at the eastern end of the grid area. Magnetic lows lie along the western side of the grid and between the main magnetic highs.

VLF-EM SURVEY

Figure 6 shows the profile plan of the survey. A northwesterly trending anomaly crosses the grid area. This anomaly correlates well with the western edge of a magnetic high and appears to outline the contact between highly magnetic rocks and weakly magnetic units. Elevated total field readings were also noted over the in phase anomalies.

WOLVERINE CREEK
braided streams



HARJAY EXPLORATION LTD.

SF CLAIMS

GRID PLAN

DONJEK RIVER, YUKON TERRITORY

N.T.S.	TECH: G.D.	DATE: OCT. '88
SCALE: 1:10,000	D'TING: J.A.S.F.	FIGURE: 4

DISCUSSION AND RECOMMENDATIONS

The grid area on the SF claims is completely covered in overburden. The strength of the magnetic values suggest that mafic or ultramafic intrusive rocks underlie the magnetic highs. Magnetic lows probably overlies sedimentary units of the Skolai Group. This geological environment is similar to the geology of the Wellgreen property.

On the Wellgreen property, four types of mineralization are recognized: massive sulphide along the gabbro-quartzite contact; disseminated chalcopyrite, pyrrhotite and pentlandite within altered gabbro; disseminated sulphides in peridotite; and disseminated mineralization in footwall quartzite at the gabbro contact (L. Hulbert et al, 1988). Collectively the mineralized zones form a large tonnage low grade copper, nickel and platinum group element deposit.

The SF claims warrant more detailed surface exploration. The work program should include grid development, magnetometer and VLF-EM surveys. Soil geochemistry should be undertaken on higher ground where soil horizons are developed. An overburden drill should be used to get bedrock samples from anomalous areas. The following program is proposed:

Grid development (50km)	\$12,500
VLF-EM and magnetometer surveys (50km)	15,000
Geochemistry 250 samples Au-Pt-Pl-Cu-Ni	4,500
Camp and support	6,500
Transportation	10,000
Report and assessment	3,500
Contingency	5,500

TOTAL	\$57,500
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CERTIFICATE

I, GRAHAM DAVIDSON, of the City of Whitehorse, in the Yukon Territory, HEREBY CERTIFY:

1. That I am a consulting geologist and that I performed the work program described in this report.
2. That I am a graduate of the University of Western Ontario (H.B.Sc., Geology, 1981).
3. That I am registered as a Professional Geologist by the Association of Professional Engineers, Geologists and Geophysicists of Alberta (#42038).
4. That I have been engaged in mineral exploration on a full time basis for seven years in the Yukon, Northwest Territories and British Columbia.

SIGNED at Whitehorse, Yukon this 31 day of October, 1988.



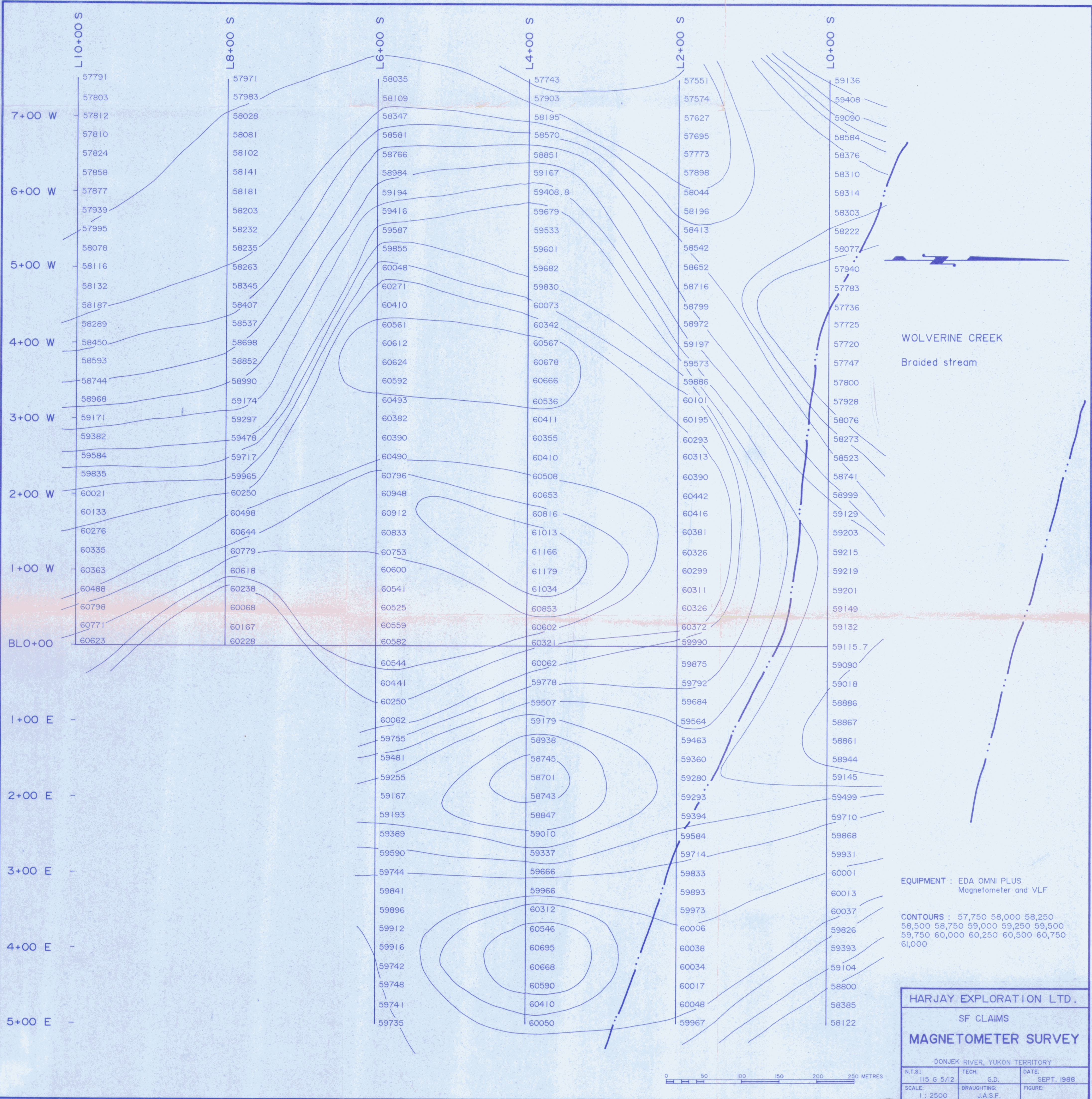
G.S. DAVIDSON, P.Geol.

STATEMENT OF COSTS

Personnel:	L. Lebedoff (prospector)	\$ 420
	G. Davidson (geologist)	
VLF-EM and magnetometer surveys, 6.5 km		1950
Transportation:	Trans North Air	1445
	Truck	125
Accommodations and meals		237
Report, preparation, drafting and printing		1450
	TOTAL COSTS	\$ 5627

REFERENCES

- Antoniuk, T., 1967: Report on the Micro Nickel Project
- Campbell, S.W., 1976: Open File 1976-10, Nickel-Copper Sulphide Deposits in the Kluane Ranges, Y.T.
- Open File #829, 1984: G.S.C., Geology of the 115 G Map Sheet
- Hulbert, L.J. et. al., 1988: Geological Environments of the Platinum Group Elements
- Dumbrille, J.C., 1953: Report on the holdings of Canalask Nickel Mines Ltd.



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